PRESTOEA (PALMAE) IN CENTRAL AMERICA[1]

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ABSTRACT

Differences among the morphologically similar Prestoea, Euterpe, *and* Neonicholsonia *are discussed. All species of* Prestoea *occurring in Central America are treated.* Prestoea semispicata *and* P. integrifolia *are described as new species.* Prestoea allenii, P. darienensis, P. decurrens, P. roseospadix, P. sejuncta, *and* P. longipetiolata *are characterized.* E. brachyspatha, E. williamsii, *and* E. simiarum *are placed in synonymy under* P. longipetiolata. Euterpe simplicifrons *is transferred to* Prestoea. *A key and illustrations are provided.*

The neotropical *Prestoea* Hook f. has remained problematic. Moore (1963) argued in favor of keeping *Prestoea* separate from the morphologically similar *Euterpe*. Wessels Boer (1965) argued for uniting the two. Doubts about the characters used by Moore have been expressed by Galeano-Garcés (1986) and Henderson (1986). A third genus, *Neonicholsonia*, is also similar to *Prestoea* but had formerly been distinguished by its spicate inflorescence. Our discovery of a *Prestoea* having usually spicate inflorescences has raised doubts about the distinctness of *Neonicholsonia* from *Prestoea*. Differences between the three genera as understood by us are given in Table 1, which shows that three groups exist. However, any change in ranking should await a study of all species throughout their neotropical ranges.

The Central American species of *Prestoea* are poorly known; too many names are in use; and the regional floras (Standley, 1937, for Costa Rica and Bailey, 1943, for Panama) are outdated. Here we treat all Central American species, based on extensive fieldwork and study of herbarium specimens, including all relevant types. Eight species are recognized. Although *Prestoea carderi* (W. Bull) Hook f. was reported by Hooker (1890) to have come from Guatemala, the description clearly states that the type material came from Colombia.

Although the species are relatively easy to distinguish in the field, this is not so in the herbarium, where the most useful character is the hairs, or their absence, on the rachillae. Sections of rachilla are illustrated for each species, as is the habit. The flowers and fruits of Central American *Prestoea* provide few distinguishing characters. There is substantial variation within species.

KEY TO THE SPECIES OF *PRESTOEA* IN CENTRAL AMERICA

1a. Leaves entire ..... (4) *P. integrifolia*
1b. Leaves regularly pinnate 2
  2a. Sheaths closed, forming a green, maroon, or purple-black crownshaft; rachillae at anthesis with sessile, crustose, mostly unbranched hairs (occasionally brown tomentose) ..... (1) *P. allenii*
  2b. Sheaths open, not forming a crownshaft; rachillae at anthesis free of crustose hairs (except *P. darienensis*) 3

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TABLE 1. *Comparison of* Neonicholsonia, Prestoea, *and* Euterpe.

	Neonicholsonia	*Prestoea*	*Euterpe*
Leaf sheaths	open and not forming a crownshaft	either semiopen and forming an asymmetric crownshaft or open*	always closed and forming a symmetric tubular crownshaft*
Pinnae	always spreading	spreading to vertical	pendulous, occasionally spreading
Inflorescences	always spicate	usually branched, rarely spicate	always branched
Prophylls	much shorter than the peduncular bract	much shorter than the peduncular bract	more or less equal to the peduncular bract
Rachillae	essentially glabrous, but with groups of hairs, rachillae surface visible	occasionally glabrous, but often with various hairs, rachillae surface visible	never glabrous, densely white- to brown-appressed tomentose or velutinous, rachillae surface not visible
Sepals of staminate flowers	united into a cupule with 3 long-acuminate lobes	free and imbricate or briefly connate at base	free and broadly imbricate
Filaments of staminate flowers	inflexed at apex	inflexed at apex	not inflexed at apex
Staminodes	absent	6, dentate	absent
Pistillate flowers	superficial on rachillae; bracteoles not prominent	superficial on rachillae; bracteoles obscure, rarely prominent	sunken in rachillae; bracteoles prominent
Stigmatic residue positions	subapical	lateral	lateral
Raphe branches	few, large, deeply sunken	numerous, anastomosing to form a network	numerous, anastomosing to form a network

* *Prestoea* inflorescences are more or less terete in bud, and in species with a crownshaft the bud expands before the subtending leaf falls, thereby giving a swollen and open crownshaft. *Euterpe* inflorescences are dorsiventrally compressed and mostly expand after the subtending leaf falls, thus the crownshaft is generally tubular and closed.

3a. Inflorescence spicate or with 2–4 rachillae; pinnae elliptic and abruptly tapered at apex; inflorescence horizontal; endosperm homogenous to slightly ruminate ..... (8) *P. semispicata*

3b. Inflorescence usually with many branches; pinnae linear and gradually tapered; inflorescence erect or horizontal; endosperm ruminate 4

4a. Rachillae at anthesis with short, stiff, simple to branched, white hairs; staminate petals pilose; stem smooth, shiny, with leaf sheaths cleanly abscising and nodes prominent ..... (3) *P. decurrens*

4b. Rachillae at anthesis glabrous, or with sessile, crustose, branching hairs, or densely reddish brown tomentose, or with patches of long, loosely intertwined hairs; staminate petals glabrous; stem mostly rough with persistent leaf sheaths and obscure nodes (occasionally with clean stems and deciduous sheaths in *P. sejuncta* and *P. longipetiolata*) 5

5a. Rachillae at anthesis with sessile, crustose, branching hairs; inflorescence erect, 2–2.5 m long ..... (2) *P. darienensis*

5b. Rachillae at anthesis glabrous, or with patches of long, loosely intertwined hairs, or densely reddish brown tomentose; inflorescence erect or horizontal, less than 1.6 m long 6

6a. Rachillae at anthesis glabrous; stem usually less than 2 m tall; inflorescence erect ..... (6) *P. roseospadix*

6b. Rachillae at anthesis with patches of long, loosely intertwined hairs, or densely reddish brown tomentose; stem usually greater than 2 m tall; inflorescence arching to horizontal 7

7a. Rachillae at anthesis densely reddish brown tomentose; stem thin, often procumbent, less than 2.5 m tall; inflorescence arching; rachis 1–8 cm long with 2–15 rachillae ..... (5) *P. longipetiolata*

7b. Rachillae at anthesis with patches of long, loosely intertwined hairs; stem stout, erect, greater than 2 m tall; inflorescence arching to horizontal; rachis 33–50 cm long with (18–)42–48 rachillae ..... (7) *P. sejuncta*

1. Prestoea allenii H. Moore, Principes 9: 72. 1965. TYPE: Panama. Chiriquí: vicinity of Cerro Punta, 2,000 m, 24

May 1946, *P. Allen 3531* (holotype, BH; isotype, MO). Figures 1, 2.

Stems solitary or cespitose, erect, to 12 m tall, 9–18 cm diam. Leaves 6–8; sheaths deciduous, forming a distinct green, maroon, or purple-black crownshaft 68–75 cm long; petiole 20–60 cm long; rachis 1.8–2.5 m long; pinnae 33–51 per side; middle pinnae 118 cm long, 6 cm wide; apical pinna not wider than others. Inflorescence infrafoliar, horizontal; peduncle ca. 20 cm long, 1.8–2.3 cm diam.; prophyll 40–51 cm long, 10.5 cm wide; peduncular bract ca. 1.1 cm long, 4–6 cm wide, inserted 5–6 cm above base of peduncle; rachis 41–85 cm long; rachillae 23–100, to 73 cm long, at anthesis with sessile, crustose, mostly branched hairs (occasionally brown tomentose); flowers glabrous; fruit 10–11 mm diam.; seeds with ruminate endosperm.

Common name. "Maquenque" (Panama).

Distribution. Eastern Nicaragua to western Panama, in cloud forest 1,000–3,000 m.

Additional specimens examined. NICARAGUA. RIVAS: Isla de Ometepe, NW slopes of Volcán Maderas, 11°26–27′N, 85°30–31′W, 1,000–1,350 m, 24 Feb. 1978, *Stevens 6510* (MO). COSTA RICA. ALAJUELA: Reserva Biológica de San Ramón, road from Las Lagunas to Colonía Palmareña, 10°14′N, 84°32′W, 850–1,100 m, 30 May 1986, *de Nevers et al. 7779* (MO). CARTAGO: above Finca La Florita on road from Cartago to El Generál, 2,450 m, 8 Apr. 1953, *Moore 6677* (BH). HEREDIA: Santo Domingo de Vara Blanca, 2,200 m, 22 Feb. 1937, *Valerio 1597* (F). LIMÓN: Cordillera de Talamanca, Atlantic slope, Valle de Silencio, area just N of Cerro Hoffmann, 4.5 airline km W of Costa Rica/Panama border, 9°08′N, 82°58′W, 2,350–2,450 m, *Davidse et al. 28700* (MO). PUNTARENAS: Cerro Echandi, 3,200 m, "Bocas, Panama, Aug. 1983, Musci, epipetric" (sic), *Gómez et al. 21835* (CAS, MO); Monteverde, 10°17′N, 84°47′W, 1,300 m, 7 June 1986, *Hammel 14872* (NY); 1,800 m, 16 June 1986, *Hammel 14960* (NY); between Sabalito and Finca López above Beneficio de Wa Chong, 1 Feb. 1967, *Moore & Parthasarathy 9440* (BH); Las Cruces ridge, San Vito de Java, 1,200 m, 2 Feb. 1967, *Moore & Parthasarathy 9443* (BH). PANAMA. CHIRIQUÍ: 2.2 km SW of Cerro Punta on road above IDAAN water tank, along ridge trail SW of Quebrada Iglesia above vegetable gardens, 2,100–2,250 m, 7 Aug. 1974, *Croat 26316* (MO); Cerro Pate Macho, Pacific side, 2,150 m, 8°49′N, 82°24′W, 31 Dec. 1985, *de Nevers & Charnley 6685* (MO, NY); road to Cerro Punta from Alto Quiel, above Boquete, 3.5 mi. up Cerro Punta road, 1,850 m, 8°51′N, 82°29′W, 16 Jan. 1986, *de Nevers & McPherson 6800* (MO, NY); path above Cerro Punta to Boquete, 8°50′N, 82°30′W, 2,500 m, moist forest, 16 Mar. 1983, *Hamilton & Stockwell 3392* (CAS, MO, NY).

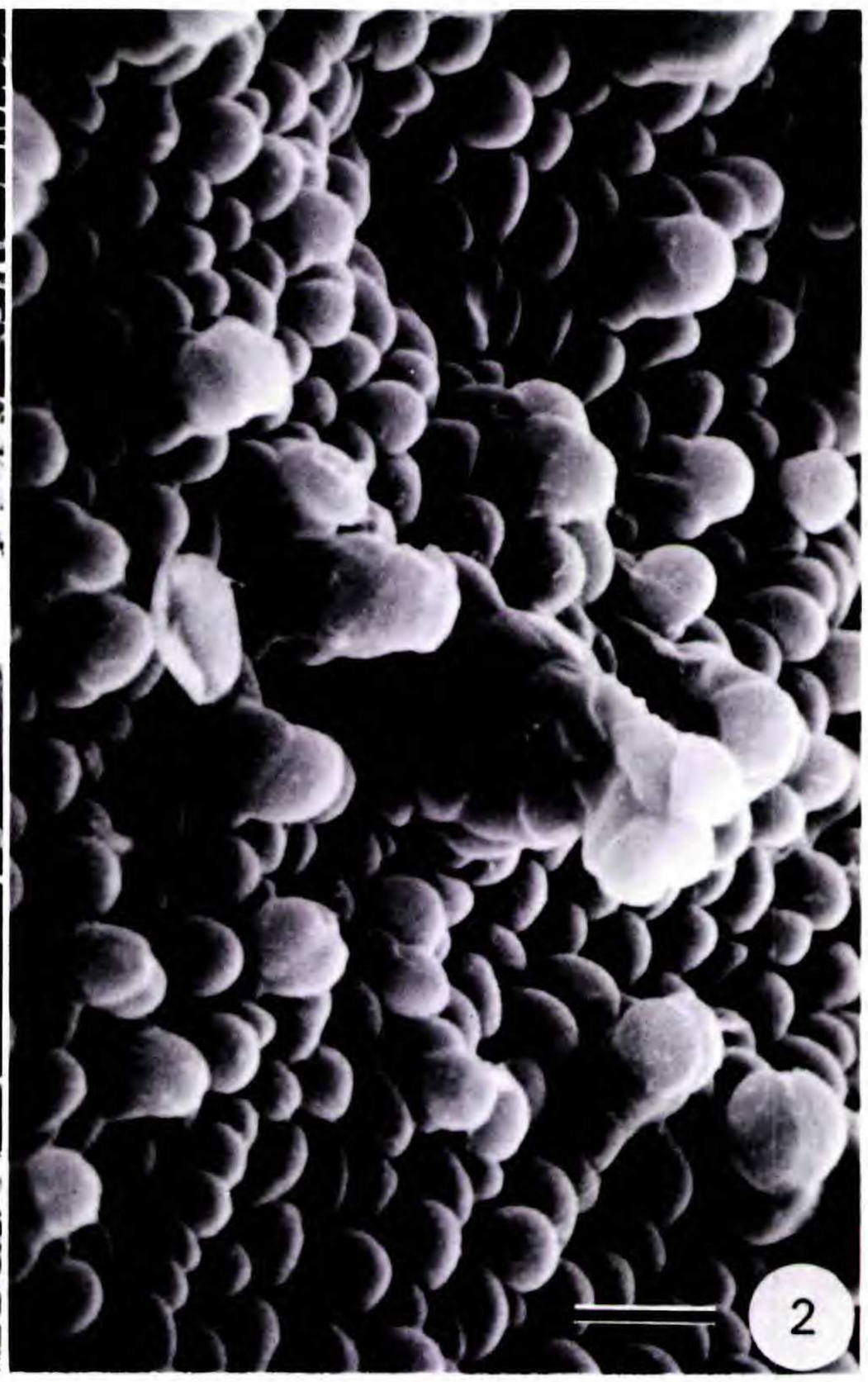
Prestoea allenii varies considerably with altitude. At lower elevations mature plants are sometimes solitary and have green crownshafts, and immature plants can lack crownshafts. At higher elevations the stems are usually cespitose, and the crownshafts maroon or purple-black. In Nicaragua and Costa Rica, lower-elevation populations with green crownshafts may represent a distinct taxon (e.g., *de Nevers et al. 7779*). However, the rachilla hairs are similar to those of *P. allenii*, and such collections are tentatively referred to that species. Robert Read (pers. comm.) reports that color variability in crownshafts of the same species is not uncommon in certain palms.

Prestoea allenii is the largest species of the genus in Central America and occurs at the highest altitude. This is not an uncommon correlation in neotropical palms, occurring, for example, in *Geonoma* and *Chamaedorea*.

2. Prestoea darienensis A. J. Henderson, Brittonia 38: 266. 1986. TYPE: Panama. Darién: Serranía de Pirre, on the ridge, 1,130 m, 18 Jan. 1985, *A. Henderson & J. Contraires 97* (holotype, NY; isotype, PMA). Figures 3, 4.

Stem solitary, erect, 2.5 m tall, 10 cm diam. Leaves 6; sheaths persistent, not forming a crownshaft; petiole 80 cm; rachis 165 cm; pinnae 29 per side; middle pinnae 75 cm long, 5 cm wide; apical pinna not wider than others. Inflorescence inter- or infrafoliar, erect; peduncle 75 cm long, ca. 1.5 cm diam.; prophyll 60 cm long, 4 cm wide; peduncular bract 2.23 m long, 2.5 cm wide, inserted 23 cm above base of peduncle; rachis 80–135 cm long; rachillae ca. 60, 45–72 cm long, at anthesis scabrid with crustose, branching hairs; flowers glabrous; fruit 8 mm diam.; seeds with ruminate endosperm.

Distribution. Known only from the type locality.



FIGURES 1, 2. Prestoea allenii.—*1. Habit, showing crownshaft and infrafoliar inflorescence* (de Nevers & McPherson 6800).—*2. Part of rachilla, showing sessile, crustose, mostly unbranched hairs* (Allen 3531). *Scale bar = 250 μm.*

Prestoea dariensis can be distinguished from the similar *P. sejuncta* by the rachillae with short, crustose, branching hairs. The inflorescence bud of the type is 2.5 m long, the longest of any *Prestoea* seen, and only approached by some specimens of *P. sejuncta*, which occasionally reach 2.1 m.

3. Prestoea decurrens (H. A. Wendl. ex Burret) H. Moore, Gentes Herb. 9: 286. 1963. *Euterpe decurrens* H. A. Wendl. ex Burret, Bot. Jahrb. Syst. 63: 63. 1929. TYPE: Costa Rica. Alajuela: San Carlos, 24 Mar. 1901, *Koschny s.n.* (B, destroyed). Neotype (here designated): Costa Rica. Heredia: Finca La Selva on Río Puerto Viejo just E of its junction with Río Sarapiquí, 12 Dec. 1984, *A. Henderson 50* (NY). Figures 5, 6.

Stems usually cespitose, (1–)2–7, erect, 3–7(–10) m tall, 3.2–10 cm diam., smooth and shiny, green or yellow. Leaves 7–9; sheaths 26–34 cm long, semipersistent, not forming a crownshaft; petiole 50–95 cm long; rachis 1.6–2.3 m long; pinnae 36–50 per side; middle pinnae 52–66 cm long, 3–4 cm wide; apical pinna not wider than the others. Inflorescence infrafoliar, white at anthesis, erect or diagonal; peduncle 15–25(–42) cm long, (0.7–)1–3 cm diam.; prophyll 17.5–19.5 cm long, 3 cm wide; peduncular bract 42–81 cm long, 2.5 cm wide, inserted 2.5–6.5 cm above base of peduncle; rachis 8–27 cm long; rachillae 7–50, 20–56 cm long, at anthesis with short, stiff, simple to branched, white, persistent hairs; staminate petals pilose near apex; fruit 6.5–8 mm diam.; seeds with ruminate endosperm; seedling leaves pinnate.

FIGURES 3, 4. Prestoea darienensis.—*3. Habit, showing long, erect, interfoliar inflorescence bud (*Henderson 97*).*—*4. Part of rachilla, showing sessile, crustose branching hairs (*Henderson 97*). Scale bar = 250 μm.*

Common name. "Palmitillo" (Costa Rica).

Distribution. Throughout Nicaragua, Costa Rica, and Panama, usually between sea level and 1,500 m. This species is also known from northern Colombia (Galeano-Garcés, 1986).

Additional specimens examined. NICARAGUA. MATAGALPA: Comarca Wanawás, beside Río Bilampi, 12°3′N, 85°13′W, 180–200 m, 14 May 1980, *Moreno & Araquistain 2389* (MO, US). RÍO SAN JUAN: near Caño Chontaleño, 20 km NE of El Castillo (Río Indio watershed), 200 m, 7–9 Mar. 1978, *Neill 3320* (MO); 18 Apr. 1978, *Neill & Vincelli 3495* (MO, US). ZELAYA: "Kurinwacito," 13°8′N, 84°57′W, 80 m, 24 Mar. 1984, *Moreno 23880* (US); Mun. Siuna, Caño El Léon, road to Hormiguero, 2 Feb. 1983, *Ortiz 730* (MO); Mina Nueva America, ca. 11.3 km N of main road leading W from 14.3 km N of El Empalme to Rosita, 22 Apr. 1979, *Pipoly 5322* (US); Caño between Cerro La Pimienta and El Hormiguero, ca. 13°45′N, 85°59′W, 800–1,000 m, 15 Mar. 1980, *Pipoly 6018* (MO, US); ca. 6.3 km S of bridge at Colonía Yolonia and ca. 0.8 km S of ridge of Serranías de Yolonia on road to Colonía Manantiales (Colonía Somoza), 11°36′N, 84°22′W, 200–300 m, 29–31 Oct. 1977, *Stevens 4823* (BH, MO, US); 13–14 Feb. 1978, *Stevens 6387* (MO); Caño Costa Riquita, ca. 1.8 km SW of Colonía Naciones Unidas, above road between Colonía Nueva León and Colonía Naciones Unidas, ca. 11°43′N, 84°18′W, 150–180 m, 6–7 Nov. 1977, *Stevens 5034* (BH, MO, US); S slope of Cerro El Inocente down to near Caño Majagua, ca. 13°45′N, 85°0′W, 800–1,000 m, 9 Mar. 1978, *Stevens 6814* (BH, MO); trail from Cerro Saslaya to San José del Hormiguerro, between Caño Majagua and Caño Sucio, ca. 13°45′N, 84°59′W, 600–800 m, 10 Mar. 1978, *Stevens 6838* (BH, MO); 6.3 km S of bridge of Colonía Yolonia on road to Colonía Manantiales of Nueva Guinea, 200–300 m, 13 Feb. 1978, *Vincelli 250* (MO). COSTA RICA. ALAJUELA: E of San Rafael, S of hot springs, W of La Marina, 10°23′N, 84°23′W, 500 m, 19 May 1968, *Burger & Stolze 5021* (F, NY); plains of San Carlos, 100 m, 3 Apr. 1903, *Cook & Doyle 54* (BH, US); Reserva Biológica de San Ramón, road from Las Lagunas to Colonía Palmareña, 10°4′W, 84°32′N, 850–1,100 m, 30 May 1986, *de Nevers et al. 7780* (MO, NY); slopes of Miravalles, above Bijagua, lower montane rainforest, ca. 1,500 m, Nov. 1982, *Gómez et al. 19185* (CAS, CR, MO); vicinity of Guatuso de San Rafael on Río Frío, 10°43′N, 84°48′W, 80–100 m, 4 Aug. 1949, *Holm & Iltis 996* (BH, MO); Río Cuarto, Sarapiquí valley, 1945, *Langlois 12* (BH); beside Laguna María Aguilar, 780 m, 28 Mar. 1969, *Lent 1531* (NY); 2 km N of

Santa Rosa, 15 km N of Boca Arenal on Quesada–Muelle San Carlos–Los Chiles road, 100 m, 10°38′N, 84°31′W, 28 Apr. 1983, *Liesner et al. 15045* (MO, WIS); Río María Aguilar between Cariblanco and San Miguel, valley of Río Sarapiquí, ca. 700 m, 23 Mar. 1953, *Moore 6560* (BH); between Corazón de Jesús and La Virgen, Río Sarapiquí, 340 m, 24 Mar. 1953, *Moore 6576* (BH); 9.1 km before Venado on road from Arenal, 750 m, 1974, *Read & Daniels 74-26* (US). CARTAGO: between Río Pacuare and Grano de Oro, 7 km below Hacienda Moravia, ca. 900 m, 13 Apr. 1953, *Moore 6699* (BH). HEREDIA: Finca La Selva, on Río Puerto Viejo above junction with Río Sarapiquí, 20 Feb. 1981, *Folsom 9056* (DUKE); 27 June 1979, *Holdridge 5107* (BH); 17 Oct. 1980, *Hammel 10189* (DUKE); 5 May 1982, *Hammel 12036* (DUKE); 10 May 1982, *Hammel 12168* (DUKE); 13 June 1984, *Jacobs 2306* (DUKE); 15 July 1984, *Jacobs & Peralta 2883* (DUKE); 28 Jan. 1967, *Moore & Parthasarathy 9407* (BH); 18 Apr. 1972, *Opler 723* (F); 13 May 1984, *Wilbur & Jacobs 34374* (DUKE); 13 May 1984, *Wilbur & Jacobs 34393* (DUKE); 1 June 1985, *Wilbur 37722* (DUKE). LIMÓN: Hacienda Tapezco-Hda. La Suerte, 29 air km W of Tortuguero, 40 m, 10°30′N, 83°47′W, 7 Mar. 1978, *Davidson et al. 6737* (MO). PUNTARENAS: along short cut road to Golfito from Villa Briceño on Interamerican Highway, W side of Fila Gamba, ca. 6 km from Golfito airport, 8°41′N, 83°12′W, ca. 100 m, 6 Mar. 1985, *Croat & Grayum 59925* (CAS, MO); road to Rincón de Osa, 16.5 km W of Chacarita, 83°22′W, 8°45′N, 25 May 1986, *de Nevers et al. 7755* (MO, NY); along the Camino al Pacifico, W of Rincón de Osa, Osa Peninsula, 30 m, 7 Aug. 1967, *Raven 21593* (DS, F, NY). PANAMA. CHIRIQUÍ: above Chiriquí Grande on road to Fortuna Dam, 20 Jan. 1985, *Read et al. 85-20b* (US). COCLÉ: along river leading up mountain to Alto Calvario and trout stream from La Junta near Limón, 800–1,000 m, 12 Oct. 1977, *Folsom 5904* (BH, MO); forest at base of Cerro Pilón above El Valle, 9 Jan. 1972, *Gentry & Dwyer 3655* (BH, MO); 46 km N from Penonomé on road to Coclesito, 30 m, 22 Feb. 1978, *Hammel 1711* (BH, MO). COLÓN: Río Guanche, 3 km upstream of the road, 27 Oct. 1985, *de Nevers & Charnley 6107* (MO, NY); 18 Jan. 1980, *Moore et al. 10515* (BH); 14 Dec. 1974, *Mori & Kallunki 3716* (BH); 15 Mar. 1986, *Hammel & Trainer 14775* (MO); 6 Oct. 1983, *Nee 7253* (CAS, MO); ridge top leading N from Río Escandaloso toward Cerro Bruja, 450 m, 27 Apr. 1978, *Hammel 2707* (MO). COMARCA DE SAN BLAS: El Llano–Cartí road, km 27.6, Río Pingandi, downstream of road, 9°19′N, 78°55′W, 150 m, 9 Mar. 1985, *de Nevers et al. 5065* (CAS, MO); El Llano–Cartí road, km 26.5, along Río Cartí Chico, 9°19′N, 78°55′W, 200 m, 12 Apr. 1985, *de Nevers et al. 5346* (MO, NY); 13 Mar. 1986, *de Nevers et al. 7379* (MO, NY); Yar Bired, continental divide between Cangandi and San José, 9°20′N, 79°08′W, 400–500 m, 5 Feb. 1986, *de Nevers et al. 6900* (MO, NY); Río Cangandi at confluence of Quebrada Titamibe, 9°24′N, 79°7′W, 60 m, 8 Feb. 1986, *de Nevers & Herrera 7017* (MO, NY); Río Taindi (Taimdi of maps), 2–3 km above confluence with Río Mandinga, 9°25′N, 79°11′W, 3 Apr. 1986, *de Nevers et al. 7626* (MO, NY); 3 Apr. 1986, *de Nevers & Herrera 7629* (MO); trail to Cerro Obu (Habu of maps) from Río Urgandi (Río Sidra), 9°23′W, 78°48′N, 100–300 m, 24 June 1986, *de Nevers & Herrera 7988* (MO); Cerro Mali, near Colombian border, 1,400 m, 23 Jan. 1975, *Gentry & Mori 13823* (BH, MO, NY). PANAMÁ: pipeline road near Gamboa, 9°10′N, 79°45′W, 100 m, 24 Feb. 1985, *de Nevers & Charnley 4942* (MO).

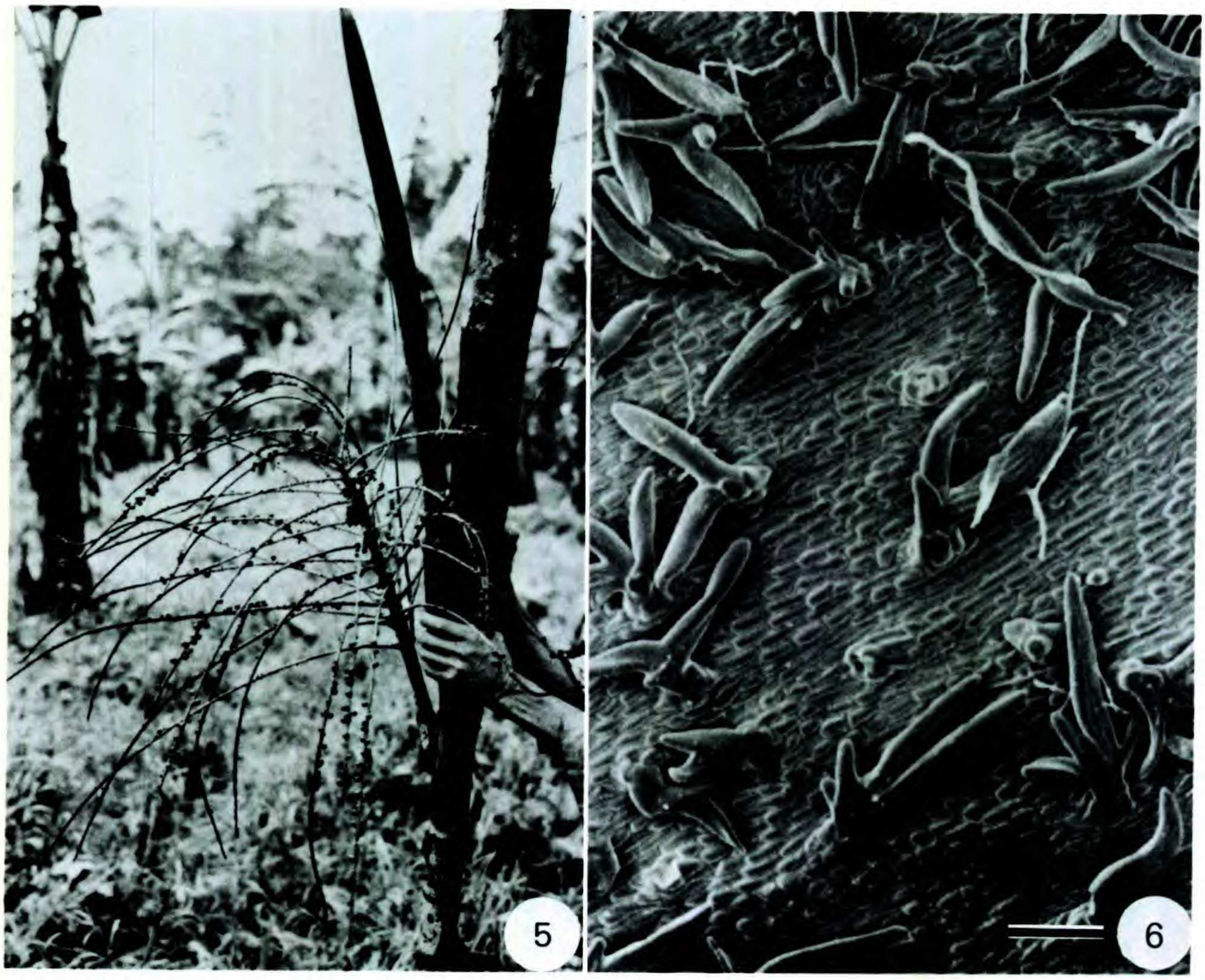
The type is no longer extant at Berlin. Burret cited a paratype (*Wendland 63*) consisting only of fruit. This is not at Göttingen among Wendland's other specimens, and is apparently lost. We therefore designate *Henderson 50*, from the same general area as the paratype, as neotype. Burret (1929) considered *P. decurrens* to be closely related to *Euterpe macrospadix* Oerst. and placed them in the same subsection (see Henderson, 1986), but they are unrelated. The confusion probably arose because the type of *E. macrospadix* at Copenhagen appears to be a mixture of *Prestoea* leaves (probably *P. longipetiolata*) and a *Euterpe* inflorescence.

Specimens from the Osa Peninsula in Costa Rica (*Raven 21593, Croat & Grayum 59925*) and Río Guanche in Panama have the typical tomentum of *P. decurrens*, but the inflorescence is less stout, the peduncle is longer and thinner, and there are 7–20 (vs. 50) rachillae. The strongly cespitose (vs. erect) stems are thinner and weaker than usual for the species.

4. Prestoea integrifolia de Nevers & A. J. Henderson, sp. nov. TYPE: Panama. Colón: Santa Rita Ridge, km 21.2, 9°20′N, 79°45′W, 350 m, 24 Feb. 1986, *G. de Nevers 7212* (holotype, MO; isotypes, CAS, COL, K, PMA, NY). Figures 7, 8.

Ab aliis speciebus integrifolius inflorescentia erecta, rachillis tenuibus pilis simplicibus obsitis necnon seminum endospermate ruminato diversa.

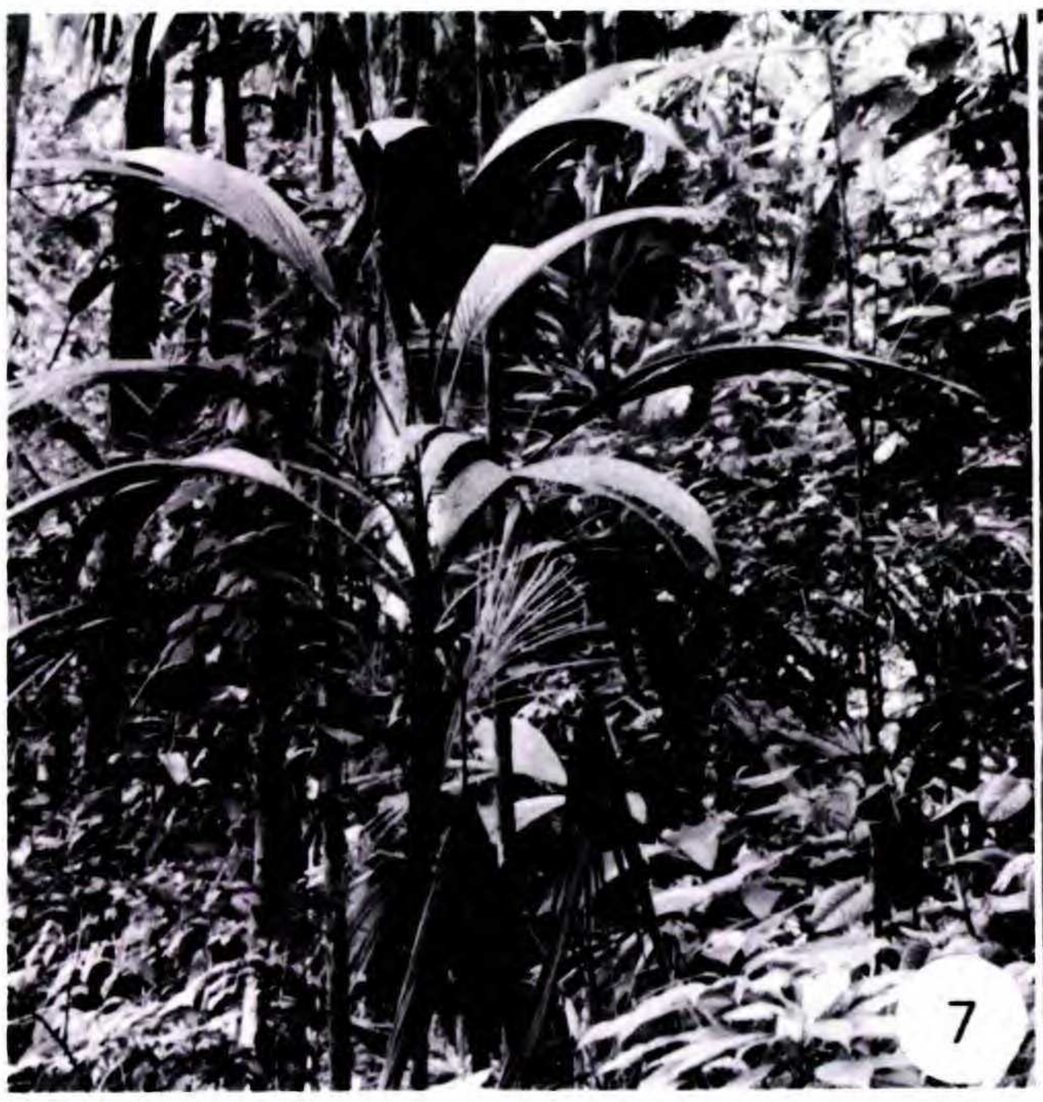
Stems cespitose, one well-developed, erect, 2.8–5.8 m tall, 3–4 cm diam.; internodes 3–8 cm long; adventitious roots forming a prominent cone at base of stem, 18–30 cm long, 6–8 mm diam., red, covered with small round projections. Leaves 8–12, spreading; sheaths not forming a crownshaft, 30–38 cm long, closed basally for 15–18 cm, open apically, covered sparsely with closely appressed whit-



FIGURES 5, 6. Prestoea decurrens.—*5. Habit, showing smooth stem, persistent leaf sheaths not forming a crownshaft, erect, interfoliar inflorescence bud, and infrafoliar inflorescence* (Langlois 12). *Photograph courtesy of BH.—6. Part of rachilla, showing short, stiff, simple to branched hairs* (Henderson 50). *Scale bar = 500 μm.*

ish-brown scales; petiole channeled adaxially, rounded abaxially, 30–50 cm long, covered with closely appressed brown scales; rachis 40–65 cm long, ridged adaxially, rounded abaxially and with scales similar to those of petiole; blade entire, 103–113 cm long, 30–35 cm wide, deeply bifid at apex for 60–65 cm; veins prominent adaxially, 14–15 per side, with brown scales proximally. Inflorescence interfoliar, erect at anthesis; peduncle 40–75 cm long, sparsely covered with brown scales; prophyll 21–35 cm long, covered with scales similar to those of peduncle; peduncular bract inserted 5–10 cm above base of peduncle, 80–130 cm long, with scales similar to those of peduncle, at anthesis brown on outside, whitish on inside; rachis 18–32 cm long; rachillae 23–28, 35–54 cm long, 1 mm diam. at middle at anthesis; rachis and rachillae white at anthesis, becoming reddish in fruit, with sparse, hyaline, simple or branched hairs; triads subtended by a low bract; staminate flowers 4 mm long, sessile; sepals 3, free, imbricate, triangular, keeled, membranaceous, hyaline margined, apiculate, 1.5 mm long; petals 3, free, valvate, lanceolate, 4 mm high; stamens 6; filaments unequal, 0.9–1.5 mm long; anthers dorsifixed at center of thecae, introrse; thecae unequal, 0.8–1.2 cm long; pistillode 1 mm long, deeply trifid; pistillate flowers 2 mm long, surrounded by 2 low bracteoles; sepals 3, free, imbricate, glabrous, broadly ovate; petals similar to sepals but slightly smaller; gynoecium ovoid, pseudomonomerous, 1.5 mm long; stigmas sessile; staminodes minute, dentate; immature fruits with ruminate endosperm.

Distribution. Only known from the type locality.



FIGURES 7, 8. Prestoea integrifolia.—*7. Habit, showing entire leaves and interfoliar, erect inflorescence* (de Nevers 7212).—*8. Part of rachilla, showing hyaline, simple and branched hairs* (de Nevers 7212). *Scale bar = 500 μm.*

Additional specimens examined. PANAMA. COLÓN: same locality as type, 13 May 1986, *de Nevers et al. 7738* (MO, NY); km 22, 500 m, 17 Feb. 1986, *Hammel et al. 14473* (MO, NY).

Prestoea integrifolia differs from all other Central American members of the genus by its entire leaves. Three other extra-Central American species have entire leaves: *P. simplicifrons*,[4] *P. simplicifolia* Galeano, and *P. cuatrecasasii* H. Moore.

The holotype of *P. simplicifrons* is no longer extant at B, and no isotypes are known, but there is another collection from at or near the type locality (*Henderson & Bernal 156*). Thus represented, *P. simplicifrons* has relatively short rachillae with a moderate to dense covering of reddish brown hairs, whereas *P. integrifolia* has long rachillae sparsely covered with hyaline hairs.

Prestoea simplicifolia (represented at NY by an isotype and by *Henderson & Bernal 140*) has a stout, pendulous inflorescence with thick rachillae, in contrast with *P. integrifolia*, which has a thin, erect inflorescence with thin rachillae.

Prestoea cuatrecasasii (represented by the original description) has seeds with homogenous endosperm, as opposed to the ruminate endosperm of *P. integrifolia*.

Prestoea pubigera (Griseb. & H. A. Wendl.) Hook. f. is sometimes reported to have entire leaves (e.g., Galeano-Garcés, 1986), but all specimens examined, including the type at Göttingen, have the lower part of the leaf with separate but unequal pinnae, and these are joined in the upper part.

5. Prestoea longipetiolata (Oersted) H. Moore, Gentes Herb. 9: 286. 1963. *Euterpe longipetiolata* Oerst., Vidensk. Meddelel. Kjoebenh. 1858: 32. 1859. TYPE: Costa Rica. Cartago: Turrialba, May 1847, *A. S. Oersted 6562* (holotype, C). Figures 9, 10.

Euterpe brachyspatha Burret, Bot. Jahrb. Syst. 63: 57. 1929. TYPE: Costa Rica. Puntarenas: Cañas Gordas, 1,100 m, Feb. 1897, *H. Pittier 11124* (holotype, B destroyed; isotypes, M, US).

Euterpe williamsii Glassman, Fieldiana, Bot. 31: 5. 1964. TYPE: Nicaragua. Matagalpa: Cordillera Central de Nicaragua, along road to La Fundadora, cloud forest area, 1,300–1,400 m, 23 Feb. 1963, *L. O. Williams, A. Molina & T. P. Williams 24922* (holotype, F).

Malortiea simiarum Standley & L. O. Williams, Ceiba 3: 102. 1952. *Euterpe simiarum* (Standley & L.

[4] **Prestoea simplicifrons** (Burret) A. J. Henderson & de Nevers, comb. nov. *Euterpe simplicifrons* Burret, Engler Bot. Jahrb. 63: 53. 1929.

O. Williams) H. Moore, Principes 1: 145. 1957. TYPE: Nicaragua. Jinotega: vicinity of Finca San Roque, sierra E of Jinotega, 1,300–1,500 m, 5 July 1947, *P. Standley 10923* (holotype, F).

Stems solitary or cespitose, often procumbent, 0.5–3 m tall, ca. 5 cm diam. Leaves 4–8; sheaths persistent, not forming a crownshaft; petiole 80–240 cm long; rachis 116–209 cm long; pinnae 21–33 per side; middle pinnae 45–56 cm long, 1.5–3 cm wide; apical pinna often markedly wider than others. Inflorescence interfoliar or infrafoliar, arching; peduncle 12–100 cm long, 3–6(–11) mm diam.; prophyll (9.5–)15–30 cm long, 1.5–2 cm wide; peduncular bract (32–)56–114 cm long, 2–4 cm wide; rachis 2–9 cm long; rachillae (2–)3–8(–20), (8–)16–35 cm long, at anthesis densely reddish brown tomentose; flowers glabrous; fruit 6–11 mm diam.; seeds with ruminate endosperm.

Distribution. From Nicaragua to western Panama (Chiriquí), 1,000–1,800 m. Contrary to a report by Wessels Boer (1971), this species does not occur in Venezuela (Henderson & Steyermark, 1986).

Additional specimens examined. NICARAGUA. JINOTEGA: Ocotillo near Sta. Lastenia, Cordillera Centrál de Nicaragua, 1,550 m, 17 Jan. 1965, *Williams et al. 27806* (F, NY). MATAGALPA: Cerro Carlota, 12°58′N, 85°52′W, 1,250–1,300 m, 23 Oct. 1982, *Moreno 18129* (MO); Cerro El Picacho, N of Selva Negra, 13°0′N, 85°55′W, 1,500 m, 7 July 1983, *Moreno 21670* (MO, US); 7 July 1983, *Moreno 21671* (MO); Cerro Carlota, 12°58′N, 85°52′W, 1,250–1,300 m, *Moreno 18149* (MO); along Highway 3, ca. 1.9 km W of Aranjuez road entrance, ca. 13°2′N, 85°56′W, 1,460–1,480 m, 30 June 1983, *Stevens 9168* (MO, US); along Highway 3, ca. 1 km NW of La Fundadora entrance, unnamed peak ca. 500 m W of Highway, ca. 13°1′N, 85°56′W, 1,450–1,520 m, 24 May 1981, *Stevens & Henrich 20456* (MO); W slope of summit of Cerro El Picacho, ca. 13°0′N, 85°55′W, 1,350–1,590 m, 3 June 1983, *Stevens & Moreno 22168* (MO, US); Cordillera Central de Nicaragua, along road to La Fundadora, 1,300–1,400 m, 23 Feb. 1963, *Williams et al. 24918* (F); Cordillera Central de Nicaragua, Xelaju, 13°02′N, 85°55′W, 1,500 m, 12 Feb. 1965, *Williams et al. 29266* (F, NY). COSTA RICA. ALAJUELA: Buena Vista, road to San Carlos valley, 600 m, 11 Apr. 1903, *Cook & Doyle 38* (US); Juan Viñas, Reventazón valley, near Juan Viñas River, 1,000 m, 21 Apr. 1903, *Cook & Doyle 173* (US); along Camino Raíz de Hule, SE of Planatillo (Tsipiri), 1,200–1,400 m, 1 July 1976, *Croat 36792* (MO); Reserva Biológia de San Ramón, road from Las Lagunas to Colonía Palmareña, 10°4′N, 84°22′W, 850–1,100 m, 30 May 1986, *de Nevers et al. 7769* (MO, NY); near Río Naranjo, 2 km W of Orosi, 1,400 m, 16 Jan. 1977, *Lent 4066* (F); slopes of ridge separating Río Paz Grande and Río Paz Chiquita, about halfway between Vara Blanca and Cariblanco, valley of Río Sarapiquí, 1,340–1,500 m, *Moore 6639* (BH); Paraiso, area of Muñeco, 9–10 Mar. 1974, *Read & Daniels 74-80* (US); Guadalupe de Zarcero, 1,200 m, 1 Nov. 1973, *Smith A567* (F); La Peña de Zarcero, Cantón Alfar Ruiz, 1,375 m, 23 Jan. 1939, *Smith 1544* (NY); El Muñeco, S of Navarro, 1,400 m, 8 Feb. 1924, *Standley 33600* (F, US). CARTAGO: Cañón del Río Grande de Orosi y Aluvión, 23 Oct. 1983, *Chacon et al. 1489* (MO); Río Tambor, 3 km SE of Cachí, 1,420 m, 22 Aug. 1971, *Lent 2060* (F); about 5 km beyond Hacienda Moravia, 1,000–1,200 m, 13 Apr. 1953, *Moore 6686* (BH); fords of Las Vueltas, Tucurrique, 635 m, Dec. 1898, *Tonduz 12924* (F, US). PUNTARENAS: Finca Loma Linda, 1 mi. SW of Cañas Gordas, 1,150 m, 26–27 Feb. 1973, *Croat 22232* (CAS, K, MO); foothills of the Cordillera de Talamanca, around Tres Colinas, 9°07′N, 83°04′W, 1,800–1,850 m, 20 Mar. 1984, *Davidse et al. 25609* (MO); Monteverde, along Río Guacimal below Lechería, 10°17′N, 84°48′W, 1,500 m, 11–14 June 1985, *Hammel & Trainer 13822* (CAS, MO); 16 June 1985, *Hammel 13872* (MO); Monteverde area, valley of Río San Luis just S of Monteverde, 10°16′N, 84°48′W, 1,000–1,200 m, 18 June 1985, *Hammel & Haber 13924* (MO); 1,800 m, 16 June 1986, *Hammel 14961* (NY); Finca Las Cruces, on trail to Río Java, ca. 1,000 m, 31 Jan. 1967, *Moore & Parthasarathy 9426* (BH); Monteverde, along foot trail in forest reserve, 3 Nov. 1974, *Moore et al. 10170* (BH); Las Cruces, Finca Kilpauk, 15 Dec. 1961, *Read 655* (BH); San Vito de Coto Brus, Las Cruces Botanical Garden, Jan. 1985, *Wilson s.n.* (BH). SAN JOSÉ: El General, 1,490 m, Feb. 1939, *Skutch 4184* (US); between San Isidro and La Georgina, 17 Nov. 1973, *Moore & McAlpin 10150* (BH); 17 Nov. 1973, *Moore & McAlpin 10150A* (BH). PANAMA. BOCAS DEL TORO: La Fortuna Dam Area, N of dam along continental divide trail W of oleoducto road, 8°47′N, 82°15′W, 1,200–1,300 m, 11 Feb. 1986, *Hammel & McPherson 14458*; near continental divide in vicinity of Cerro Colorado, 9.4 road miles from Chami camp, ca. 8°35′N, 81°45′W, ca. 1,700 m, 15 Apr. 1986, *McPherson 8917* (MO, NY). CHIRIQUÍ: 9 mi. from Río Chiriquí Viejo bridge near Nueva California on road to Río Sereno, 7 Apr. 1979, *Hammel et al. 6829* (MO).

Malortiea simiarum was originally distinguished by its pinnate leaves and little-branched inflorescence when being compared with *Reinhardtia* (*Malortiea*). The size, degree of branching, and pubescence of the type fall within the range of variation observed in Costa Rican material of *P. longipetiolata.*

Euterpe brachyspatha, as judged from the original description, was named after a misinterpretation of the inflorescence. Burret (1929) described the spadix (inflorescence) as 98 cm long and the spathe (peduncular bract) as 17 cm long, which is impossible. The ho-

FIGURES 9, 10. Prestoea longipetiolata.—*9. Habit, showing procumbent stem and arching, interfoliar inflorescence (*Moore 9426*). Photograph courtesy of BH.—10. Part of rachilla, showing dense tomentum (*McPherson 8917*). Scale bar = 250 μm.*

lotype is lost, and the isotypes are incomplete. However, the specimens described by Burret represent *P. longipetiolata*. The Munich isotype has the broad apical pinna typical of most but not all specimens of *P. longipetiolata*. A topotype, *Croat 22232*, is typical *P. longipetiolata*.

Euterpe williamsii was originally contrasted with *E. brachyspatha*, presumably represented by the original description. In Burret's (1929) key, *E. brachyspatha* and *E. longipetiolata* are contrasted in the same couplet. In its protologue, Glassman did not contrast *E. williamsii* with *E. longipetiolata*. *Euterpe williamsii* agrees in the diagnostic characters of size, branching, and pubescence of the inflorescence with *E. longipetiolata*.

6. Prestoea roseospadix (L. Bailey) H. Moore, Principes 9: 73. 1965. *Euterpe roseospadix* L. Bailey, Gentes Herb. 6: 201. 1943. TYPE: Panama. Chiriquí: vicinity of Bajo Chorro, 1,900 m, 20–22 July 1940, *R. E. Woodson & R. W. Schery 623* (holotype, MO; isotype, BH). Figure 11.

Stems solitary, erect, 0.3–3 m tall, 8–10 cm diam. Leaves 4–6; sheaths persistent, not forming a crownshaft; petiole 61–76 cm long; rachis 120–125 cm long; pinnae 21–27 per side; middle pinnae 38–50 cm long, 2–2.5 cm wide; apical pinna not wider than others. Inflorescence infrafoliar, erect; peduncle 16–38 cm long, 0.5 cm wide; prophyll 20–23 cm long, 2 cm wide; peduncular bract 70–80 cm long, 2 cm wide, inserted ca. 14 cm above base of peduncle; rachis 16–40 cm long; rachillae 9–16, 20–40 cm long, glabrous; flowers glabrous; fruit 9–10 mm diam.; seeds with ruminate endosperm.

Distribution. Western Panama (Chiriquí and Veraguas) at altitudes around 1,500 m.

Additional specimens examined PANAMA. CHIRIQUÍ: Cerro Horqueta, 2,100 m, 24 July 1966, *Blum & Dwyer 2665* (MO); 24 July 1966, *Blum & Dwyer 2671* (MO); 8 Aug. 1967, *Kirkbride 162* (MO); Bajo Chorro, Boquete, ca. 2,000 m, 11 Jan. 1938, *Davidson 100* (F); lower slopes of Cerro Pate Macho, 8°49′N, 82°24′W, 1,600 m, 31 Dec. 1985, *de Nevers & Charnley 6697* (MO, NY); 17 Jan. 1986, *de Nevers & McPherson 6829* (MO, NY); La Fortuna hydroelectric dam project, behind camp, 1,300–1,400 m, 23 Mar. 1978, *Hammel 2255* (BH, MO). VERAGUAS: valley of Río Dos Bocas on road between Alto Piedra (above Santa Fé) and Calovébora, 350–400 m, 29 Aug. 1974, *Croat 27440* (MO).

7. Prestoea sejuncta L. Bailey, Gentes Herb. 6: 201. 1943. TYPE: Panama. Canal Area: Madden Lake area, upper Río Pequení, 100 m, 29 July 1941, *A. G. B. Fairchild & D. Jobbins 2635* (holotype, BH; isotype, MO). Figures 12–14.

Stem solitary or cespitose, erect, 5–9 m tall, (4.5–)9–13 cm diam. Leaves 5–8; leaf sheaths persistent or deciduous, not forming a crownshaft; middle pinnae 61–86 cm long, 3–4.5(–6) cm wide; apical pinna not wider than others. Inflorescence interfoliar, erect, or arching, or horizontal, straight or curved; prophyll 13–45(–75) cm long, (1.2–)3–5 cm wide; peduncular bract 69–156(–215) cm long, (2.5–)3.6–5.5 cm wide, inserted (2–)4.5–13 cm above prophyll; peduncle 23–71 cm long, 0.6–1.4 cm wide, narrow, cylindric, not flaring at base; rachis (15–)33–50 cm long; rachillae (18–)42–48, 30–70 cm long, essentially glabrous but with patches of long, loosely intertwined hairs; flowers glabrous; fruits 7–10 mm diam.; seeds with ruminate endosperm.

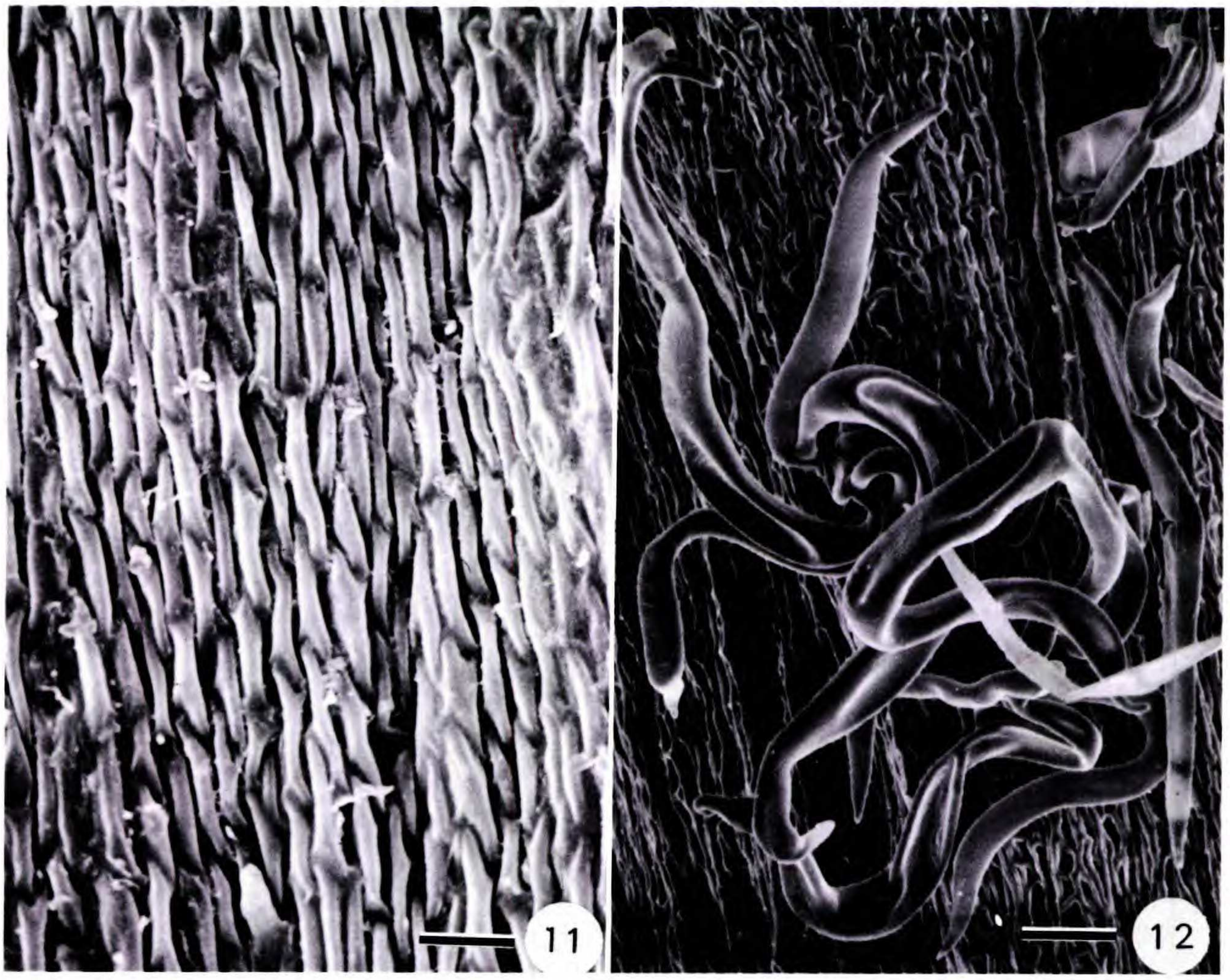
Distribution. Known from central Panama (Chiriquí, Coclé, Comarca de San Blas, Colón), 100–1,100 m. This species is also reported from coastal Ecuador by Dodson & Gentry (1978). Other specimens from Ecuador (e.g., *Balslev & Henderson 62107*) are clearly referable to this species, and it presumably occurs in intervening Colombia.

Additional specimens examined. PANAMA. CHIRIQUÍ: Fortuna dam area, road from Gualaca to Chiriquí Grande, continental divide trail west of road, 1,150 m, 8°45′N, 82°15′W, 18 Jan. 1986, *de Nevers & McPherson 6849* (MO, NY). COLÓN: trail from Alto Pacora to Cerro Brewster, 9°18′N, 79°16′W, 700 m, 18 Nov. 1985, *de Nevers et al. 6223* (MO, NY). COCLÉ: El Valle de Antón, La Mesa, ca. 1,000 m, 2 Sep. 1941, *Allen 2740* (paratype) (BH, MO). COMARCA DE SAN BLAS: Cerro Brewster, 9°18′N, 79°16′W, 850 m, 25 Apr. 1985, *de Nevers et al. 5541* (MO, NY). PANAMÁ: 3 mi. N of Cerro Azúl, 26 July 1970, *Croat 11589* (MO); Cerro Jefe, ca. 700 m, 20 Jan. 1980, *Moore et al. 10522* (BH); Río Pequení, slopes of Cerro San Francisco, 150–300 m, 9°22′N, 79°31′W, 29 Nov. 1985, *de Nevers & Henderson 6411* (CAS, MO, NY); road to Alto Pacora from Cerro Jefe, 700 m, 28 Nov. 1985, *Henderson & Brako 505* (MO, NY); Gorgas Memorial Lab's yellow fever research camp, ca. 25 km NE of Cerro Azúl on Río Piedras, 550 m, 20–22 Nov. 1974, *Mori & Kallunki 3454* (BH, MO).

Among the specimens examined, there appear to be two ecotypes, which may turn out to represent distinct taxa. At higher altitudes (900–1,200 m) in premontane rain forest (Holdridge et al., 1971), the inflorescence is straight and erect in bud (Fig. 13) and relatively long and thick (1.5–2.1 m × 3–5 cm). At lower altitudes (10–200 m) in tropical moist forest and tropical wet forest (Holdridge et al., 1971), the inflorescence is curved and horizontal in bud (Fig. 14) and is relatively short and thin (75–80 × 1.2–2.5 cm). When Bailey described *P. sejuncta*, he cited two specimens, one of each ecotype. The holotype is the short-inflorescence ecotype, and the paratype, *Allen 2740*, is the long-inflorescence ecotype. Although letters accompanying *Allen 2740* from Paul Allen to Bailey clearly outlined this variation, Bailey included only the dimensions of the smaller Madden Lake plant.

8. Prestoea semispicata de Nevers & A. J. Henderson, sp. nov. TYPE: Panama. Comarca de San Blas: Cerro Brewster, 9°18′N, 79°16′W, 800 m, premontane rain forest, 19 Nov. 1985, *G. de Nevers, A. Henderson, H. Herrera, G. McPherson & L. Brako 6290* (holotype, MO; isotypes, AAU, BH, CAS, COL, FTG, K, NY, PMA). Figures 15, 16.

Ab omnibus congeneribus inflorescentia simplice vel pauciramosa necnon seminum endospermate subruminato diversa.



FIGURES 11, 12. Prestoea.—*11.* P. roseospadix, *part of rachilla, showing absence of hairs* (Woodson 623). *Scale bar = 400 μm.*—*12.* P. sejuncta, *part of rachilla, showing long, loosely intertwined hairs* (de Nevers & Henderson 6411). *Scale bar = 500 μm.*

Stems cespitose, only one well-developed, to 145 cm long, 3.5–9 cm diam., often procumbent and partly subterranean; roots visible above ground, spiny and occasionally swollen. Leaves 4–10, arching to erect; sheaths not forming a crownshaft, 17–20 cm long, brown, persistent; petiole 29–100 cm long, densely covered with closely appressed, brown hairs; rachis 52–180 cm long; pinnae 12–20 per side, elliptic, abruptly and asymmetrically long-apiculate, glossy green adaxially, lighter green abaxially; middle pinnae 19–51 × 2.5–6 cm. Inflorescence infrafoliar, protandrous, arching, borne at or near ground level; peduncle 6–50 cm long, 1.5–3 mm diam., terete, with scattered brown scales; prophyll erect and persistent in leaf axil, inserted at base of peduncle, (1.2–)4.5–19 cm long, 1.1–1.8 cm wide, dorsiventrally compressed, ancipitous, splitting apically; peduncular bract (9–)29–90 cm long, 1–2 cm wide at middle, inserted (0.7–)1.5–7 cm above insertion of prophyll, terete in bud, apically pointed, brown at anthesis, soon dropping; rachillae 1(–4), 8–30 cm long, glabrous; peduncle and rachis white at anthesis and becoming red in fruit; triads densely crowded and borne to apex of rachillae, slightly sunken, subtended by a low bract; staminate flowers 4 mm long, sessile or borne on a short, flattened pedicel, white; sepals 3, triangular, gibbous, imbricate below, 1 mm long, ciliate; petals 3, free, lanceolate, valvate, 4 mm long; stamens 6; filaments slightly flattened, with long reflexed apex in bud, 3 mm long; anthers dorsifixed, latrorse, 2 mm long; pistillode prominent, as long as stamens in bud, briefly trifid at apex; pistillate flower 3 mm long, surrounded by 2 low bracteoles; sepals 3, free, imbricate, minutely ciliate; petals 3, free, val-

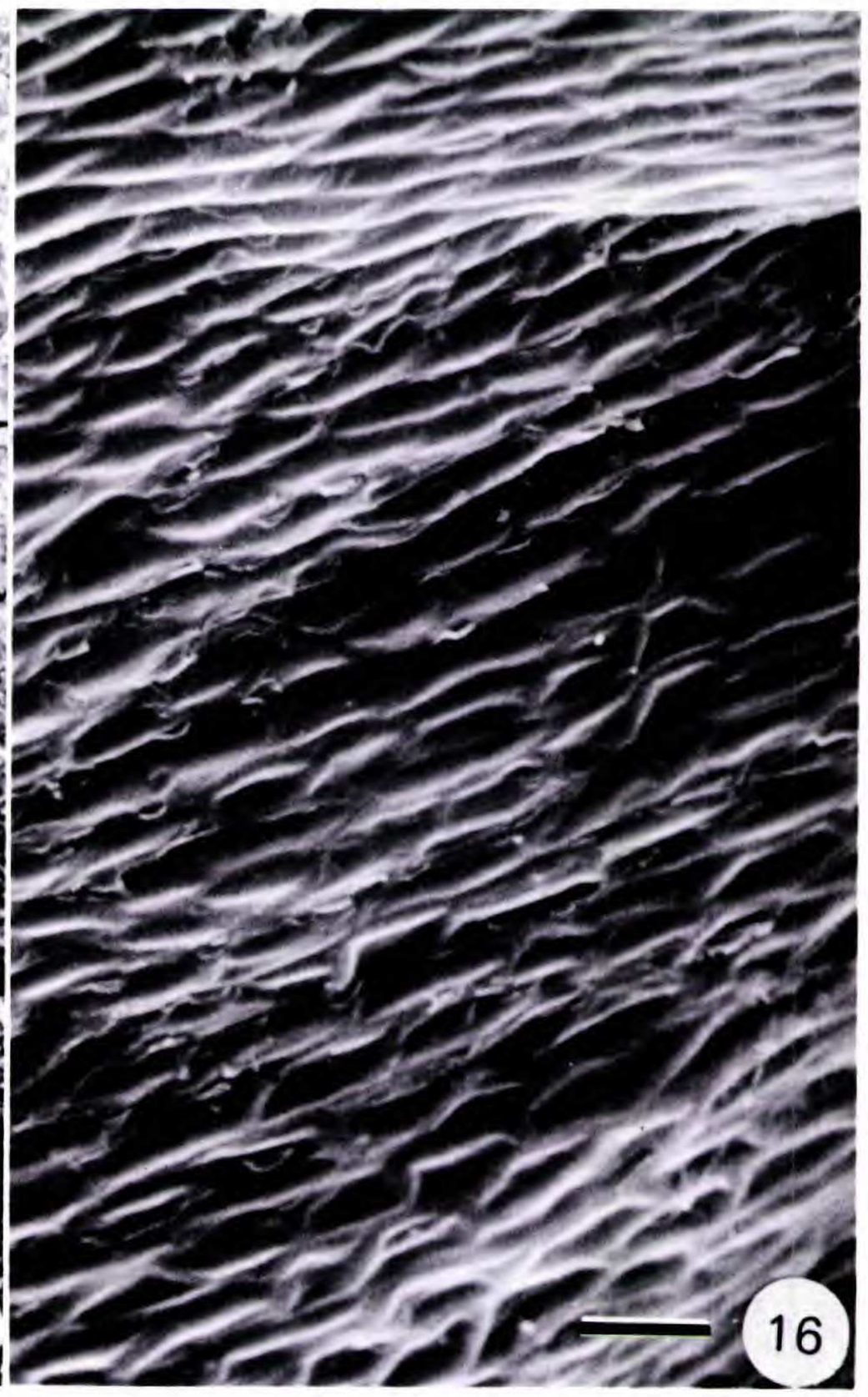
FIGURES 13, 14. Prestoea sejuncta.—*12. Straight inflorescence bud and long inflorescence with elongate peduncle and numerous rachillae* (Henderson & Brako 505).—*14. Curved inflorescence bud and small inflorescence with short peduncle and few rachillae* (de Nevers & Henderson 6411).

vate above, imbricate below; gynoecium ovoid, pseudomonomerous, 2 mm long, the ovule attached laterally; stigmas sessile, elongate, not recurved at anthesis; staminodes dentiform; fruit spherical, 8 mm diam., with lateral stigmatic residue, black; epicarp smooth; mesocarp fleshy; seed spherical, 7 mm diam., the endosperm homogenous to slightly ruminate; embryo basal.

Common name. "Siler burwi" (Kuna, Panama).

Distribution. Known only from the low mountains of Central Panama, from the western end of the Serranía de San Blas to El Copé in Coclé, where it is uncommon between 350 and 850 m. It grows on steep slopes and ridge tops in premontane rainforest and tropical wet forest.

Additional specimens examined. PANAMA. COCLÉ: El Valle de Antón, Cerro Gaital, 8°37′N, 80°6′W, 1,000 m, 26 Nov. 1985, *de Nevers et al. 6351* (CAS, MO, NY); continental divide above El Copé, 900 m, 19 Jan. 1978, *Hammel 967* (MO); 27 Nov. 1985, *de Nevers et al. 6381* (MO, NY, PMA, other duplicates to be distributed). COMARCA DE SAN BLAS: same locality as type, 16 Oct. 1984, *de Nevers et al. 4027* (MO, NY); 25 Apr. 1985, *de Nevers et al. 5550* (MO, NY); 19 Nov. 1985, *de Nevers et al. 6242* (MO, NY); 21 Dec. 1985, *Hammel & de Nevers 13560* (CAS, MO); El Llano–Cartí road, km 16.5, 9°19′N, 78°55′W, 350 m, 13 Mar. 1985, *de Nevers & Herrera 5153* (MO); 12 Mar. 1986, *de Nevers et al. 7371* (MO); 22 Nov. 1985, *de Nevers & Henderson 6312* (MO, NY); 8 Mar. 1986, *de Nevers & Herrera 7260* (MO, NY); 18 June 1986, *de Nevers & Herrera 7945* (CAS, MO); trail from Cerro Camucañala to Río Titamibe, 9°24′N, 79°8′W, 60–100 m, 28 Jan. 1985, *de Nevers et al. 4719* (CAS, MO, NY); trail from Río Esadi to Cerro Banega, 300–530 m, 9°23′N, 78°51′W, 21 Dec. 1985, *de Nevers & Herrera 6671* (CAS, MO, NY); Yar Bired (Cerro San José), continental divide between Cangandi and San José, 9°20′N, 79°8′W, 400–500 m, 7 Feb. 1986, *de Nevers & Herrera 6961* (MO, NY); trail to Cerro Obu (Habu of maps) from Río Urgandi (Río Sidra), 9°25′N, 79°11′W, 100–300 m, 3 Apr. 1986,



FIGURES 15, 16. Prestoea semispicata.—*15. Habit, showing procumbent stem, arching, infrafoliar inflorescence, and abruptly tapering pinnae* (de Nevers et al. 6290).—*16. Part of rachilla, showing absence of hairs* (de Nevers 5550). *Scale bar = 250 μm.*

de Nevers & Herrera 8029 (CAS, MO); Cerro Obu, 78°48′W, 9°23′N, 25 June 1986, *de Nevers & Herrera 8055* (CAS, MO).

Prestoea semispicata is unusual in the genus by the usually spicate inflorescence, seeds with homogenous to slightly ruminate endosperm, and shape of the pinnae. In populations where individuals with branched inflorescences occur, spicate inflorescences are also found. In fact, branched and spicate inflorescences form on the same plants. *Prestoea semispicata* appears morphologically similar to that group of *Prestoea* characterized by a weakly developed stem, absence of crownshaft, markedly unequal prophyll and peduncular bract, short rachis with few rachillae, and seeds with either homogenous or ruminate endosperm (Henderson, 1986). In this group, *P. semispicata* shares with *P. cuatrecasasii* and *P. schultzeana* (Burret) H. Moore seeds with homogenous endosperm but differs in the shape of the pinnae and in having usually spicate inflorescences. Some specimens of *P. longipetiolata* from Nicaragua and *P. pubens* H. Moore from Colombia have two or three rachillae on the inflorescence, but these are densely tomentose and not glabrous as in *P. semispicata.*

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